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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,710	03/17/2006	Dong Zhu	884A.0129.U1(US)	4697
29683 7590 09/12/2007 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212			EXAMINER HANNON, CHRISTIAN A	
			ART UNIT	PAPER NUMBER
			2618	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,710	<b>Applicant(s)</b> ZHU ET AL.	
	<b>Examiner</b> Christian A. Hannon	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/18/06, 8/6/07</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

2. The information disclosure statements (IDS) submitted on 3/18/2006 & 8/6/2007 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statements.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 & 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinckley et al, a research publication (ACM UIST 2000 Symposium on User Interface Software and Technology, CHI letters 2 (2), pp. 91-100), hereinafter Hinckley.

Regarding claim 1, Hinckley teaches a mobile device comprising a display (Figure 1), a processor for controlling the operation of the mobile device including the display (Page 92, Paragraph 9), an incline sensor arranged to detect inclination of the mobile device in a first plane, wherein the mobile device has an inclinometer, or accelerometer mode in which the processor received an indication of the detected incline in the first plane from the incline sensor and controls the display to display an

item at a position dependent upon the received indication (Page 92, 1<sup>st</sup> and 2<sup>nd</sup> Paragraphs; Page 96 Figure 9, 1<sup>st</sup> Paragraph). However Hinckley does not explicitly state that the prototype device in question is a cellular phone. Hinckley does teach that cellular telephones are within the scope of the teachings (Page 91, Introduction paragraph). Therefore it would be obvious to one of ordinary skill in the art to implement the teachings of Hinckley into a cellular telephone to provide for a more intimate user experience with the phone.

Regarding claim 2, Hinckley teaches claim 1, wherein the processor receives real time indications of the detected incline in the first plane from the incline sensor and controls the display to move an item in real time through positions dependent upon the received indications (Page 92, 9<sup>th</sup> paragraph; Page 96, 2<sup>nd</sup> paragraph).

Regarding claim 3, Hinckley teaches claim 1, wherein the display has a first axis and the processor controls the display to display an item at a position along the first axis dependent upon the received indication (Page 96, 2<sup>nd</sup> paragraph). For defining purposes the applicant has construed when in portrait mode as defined in Hinckley figure 8, the vertical display axis to the left is the y-axis and the horizontal bottom portion of the display is the x-axis.

Regarding claim 4, Hinckley teaches claim 1, wherein the incline sensor is arranged to additionally detect inclination of the mobile telephone in a second plane, orthogonal to the first plane, wherein, in the inclinometer mode, the processor receives an indication of the detected incline in the second plane from the incline sensor and controls the display to display a further item at a position dependent upon the received

indication (Page 96, 6<sup>th</sup> paragraph). Hinckley teaches a flat rendering that is orthogonal to the directly up right holding of a portable device, and accordingly teaches an associated display controlled via the microprocessor sensing said flat state.

Regarding claim 5, Hinckley teaches claim 4, wherein the processor receives real time indications of the detected incline in the first and second planes from the incline sensor and controls the display to move the item and the further item, in real time through positions dependent upon the received indications (Page 92, 9<sup>th</sup> paragraph; Page 96, 2<sup>nd</sup> paragraph, 6<sup>th</sup> paragraph).

Regarding claim 6, Hinckley teaches claim 4, wherein the display has a first axis and a second axis orthogonal with the first axis and the processor controls the display to display the item at a position along the first axis dependent upon the received indication of the detected incline in the first plane and the further item at a position along the second axis dependent upon the received indication of the detected incline in the second plane (Page 92, 9<sup>th</sup> paragraph; Page 96, 2<sup>nd</sup> paragraph, 6<sup>th</sup> paragraph). For defining purposes the applicant has construed when in portrait mode as defined in Hinckley figure 8, the vertical display axis to the left is the y-axis and the horizontal bottom portion of the display is the x-axis.

Regarding claim 7, Hinckley teaches 1 wherein the incline sensor is additionally arranged to detect inclination of the mobile telephone in a second plane, orthogonal to the first plane and the processor in the inclinometer mode receives a first indication of the detected inline in the first plane and a second indication of the detected incline in the second plane from the incline sensor and controls the display to display the item at a

position dependent upon the received first and second indications (Page 96, 6<sup>th</sup> paragraph). Hinckley teaches a flat rendering that is orthogonal to the directly up right holding of a portable device, and accordingly teaches an associated display controlled via the microprocessor sensing said flat state.

Regarding claim 8, Hinckley teaches claim 7, wherein the display has a first axis and a second axis orthogonal with the first axis and the processor controls the display to display the item at a coordinate position (i,j), or (c-x,c-y), wherein the first coordinate is dependent upon the received indication of the detected incline in the first plane and second coordinate is dependent upon the received indication for the detected incline in the second plane (Page 96, 5<sup>th</sup> paragraph).

Regarding claim 9, Hinckley teaches claim 7, wherein the processor received real time indications of the detected incline in the first and second planes from the incline sensor and controls the display to move the item in real time through positions dependent upon the received indications (Page 92, 9<sup>th</sup> paragraph; Page 96, 1<sup>st</sup> paragraph).

Regarding claim 11, Hinckley teaches a display (Figure 1), a processor for controlling the operation of the mobile device including the display (Page 92, Paragraph 9) a first incline sensor means for detecting inclination of the mobile telephone when in a first orientation and second incline sensor means for detecting inclination of the mobile device when in a second orientation, the sensors abilities to differentiate the Cartesian x and y directions are applied as reading on the claim, wherein the mobile device has an inclinometer mode, in which the processor determines an approximate orientation of the

mobile device from inputs from the first and second incline sensor means and automatically controls the display to display an item at a position representative of the incline for the determined orientation (Page 92, 1<sup>st</sup> and 2<sup>nd</sup> Paragraphs; Page 96 Figure 9, 1<sup>st</sup> Paragraph). However Hinckley does not explicitly state that the prototype device in question is a cellular phone. Hinckley does teach that cellular telephones are within the scope of the teachings (Page 91, Introduction paragraph). Therefore it would be obvious to one of ordinary skill in the art to implement the teachings of Hinckley into a cellular telephone to provide for a more intimate user experience with the phone.

Regarding claim 13, Hinckley teaches claim 1, for measuring an incline. As interpreted that as the mobile device houses a means for measurement of an incline the current claim is read on (Page 93, 1<sup>st</sup> paragraph).

Regarding claim 14, Hinckley teaches claim 1, for correcting an incline (Page 96, 4<sup>th</sup> paragraph).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hinckley in view of Kalinski et al (US 2003/0174307), hereinafter Kalinski.

Regarding claim 10, Hinckley teaches claim 1, however Hinckley fails to teach wherein the incline sensor comprises a first pair of electrodes aligned along the first plane and partially immersed in a liquid for providing a first signal indicative of an incline in the first plane and a second pair of electrodes aligned along a second plane, orthogonal to the first plane and partially immersed in a liquid for providing a second signal indicative of an incline in the second plane. Kalinski teaches wherein the incline sensor comprises a first pair of electrodes aligned along the first plane and partially

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immersed in a liquid for providing a first signal indicative of an incline in the first plane and a second pair of electrodes aligned along a second plane, orthogonal to the first plane and partially immersed in a liquid for providing a second signal indicative of an incline in the second plane (Page 5, [0079]; Kalinski). Therefore it would have been obvious to one of ordinary skill in the art to substitute Kalinski's sensor for the accelerometer of Hinckley since they both provide the same purpose and the Hinckley sensor is now out of production.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



C. A. Hannon  
August 31, 2007



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